

What is claimed is:

1. A system for exhaust gas purification, comprising at least one adsorbent capable of adsorbing harmful substances in exhaust gas and at least one catalyst containing a catalyst component, capable of reducing said harmful substances, both provided at an in-line position of exhaust pipe of internal combustion engine, in which system the harmful substances in the exhaust gas during cold engine start up of internal combustion engine are adsorbed by the adsorbent and the adsorbed harmful substances are desorbed from the adsorbent with the temperature rise of the adsorbent caused by the heat of the exhaust gas and are burnt on the catalyst, wherein the adsorbent contains a H type β -zeolite having a $\text{SiO}_2/\text{Al}_2\text{O}_3$ ratio of 100 or more and can maintain good adsorption capability even when exposed to an exhaust gas of 750°C or more from an internal combustion engine.

2. A system for exhaust gas purification according to Claim 1, wherein at least one of the adsorbents contains, in addition to the H type β -zeolite having a $\text{SiO}_2/\text{Al}_2\text{O}_3$ ratio of 100 or more, at least one noble metal as catalyst component, selected from Pt, Pd and Rh.

3. A system for exhaust gas purification according to Claim 2, wherein only Pd is used as the noble metal.

4. A system for exhaust gas purification according to Claim 1, wherein the adsorbent contains a H type β -zeolite having a $\text{SiO}_2/\text{Al}_2\text{O}_3$ ratio of 200 or more.

5. A system for exhaust gas purification according to Claim 1, wherein the catalyst contains at least one noble metal as catalyst component, selected from Pt, Pd and Rh.

6. A system for exhaust gas purification according to Claim 2, wherein the noble metal is used by being loaded on a heat-resistant oxide.

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